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AUTHOR Roueche, John E.; And Others
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ABSTRACT

In order to determine whether one semester of individualized instruction is enough time to cause a shift toward internal locus of control (a student's sense of the direct relationship between his behavior and its outcome), a sample of 126 educationally deficient first semester community college students were selected from 18 different sections of math, English, and history, and tested with the MacDonald-Tseng Locus of Control Scale at the beginning and end of the term. Students enrolled in 50 percent or more of individualized classes were considered to be in the treatment group; the other students were considered as the control group. Results, although not definitive, were positive. Students in the treatment group scored more homogeneously on the control expectancy scale than did students in the control group. The average increase in internality was in excess of three scale points indicating overall movement in the direction of internal control orientation. However, a slightly greater percentage of students in the treatment group made external shifts (chance or other powerful individuals determine events) than did students in the control group. Thus, a single semester of individualized courses, particularly to students unaccustomed to such instruction, may not provide enough impetus to cause a significant shift in locus of control. (NHM)

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John E. Roueche
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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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EFFECTS OF INDIVIDUALIZED INSTRUCTION ON CONTROL EXPECTANCY: A FIELD TEST

by

John E. Roueche[1]
Oscar G. Mink[2]
Michael L. Abbott[3]

Abstract

This study was conducted in order to determine whether or not one semester of individualized instruction is enough time to create in students an increased sense of being able to control payoffs in life and subsequently to develop a more realistic appraisal of one's ability to control payoffs in an academic environment. Paradoxically, the converse may be true. When first confronted with a success-oriented instructional process and opportunities for self-pacing, students with failure histories may at first become more external, anxious, or uncertain. In order to examine these notions, a sample of 126 educationally-deficient students who were beginning their first semester of study in a community college were selected from 18 different sections of math, English and history and tested twice -- once as the term was beginning and again late in the term just prior to finals.

1. John E. Roueche is presently Professor of Community College Education at The University of Texas at Austin. He is Principal Investigator of the NIMH research project described in this report.

2. Oscar G. Mink is currently Visiting Professor of Community College Education at The University of Texas at Austin. He serves as Director of the NIMH project.

3. Michael L. Abbott is a Planning Specialist in the Division of Planning and Evaluation for the State Board for Technical and Comprehensive Education in Columbia, South Carolina.

INTRODUCTION AND BACKGROUND

Community colleges, through the practices of open admissions and vigorous recruitment, are enrolling more students from "nontraditional backgrounds". These students come from low-income families, typically are members of various minority groups, and suffer from feelings of powerlessness, low self-concept, and general feelings of unworthiness. They have experienced relatively little, if any, success in their educational endeavors (Roueche, 1972). While such "nontraditional students" have been able to enter public community colleges, few have persisted there for more than a semester. Although no standards for examining attrition exist, the national attrition rates are alarming, indicating a lack of competence in servicing the nontraditional student.

Many institutions have attempted to better serve the nontraditional, low-achieving student through the initiation of remedial or developmental programs. National studies have indicated that such programs have generally been unsuccessful (Roueche, 1968; Roueche and Kirk; 1973). Some developmental studies programs have maintained high retention rates while students were in the programs, but then experienced accelerated attrition once the students returned to traditional classrooms. It may be assumed that these students had not learned to cope with the mechanics of traditional classroom instruction. That is, nontraditional students were unprepared to adjust to an environment where (1) students are expected to possess the necessary verbal skills to accommodate lecture-textbook approaches, (2) students are expected to learn at the same rate, (3) students

are expected to be equally interested in the prescribed course content, and (4) students are expected to be self-motivated. Consequently, the nontraditional, low-achieving student's concept of himself as a failure is reinforced. He faces an increasingly complex society with virtually no educational training, few saleable skills, and one more failure experience on his record. It is apparent that improved teaching is needed in community colleges if they are to truly serve the nontraditional student.

LOCUS OF CONTROL

The locus of control construct has been derived from the theory of social learning postulated by Rotter (1954). Internal-external locus of control refers to the extent to which an individual perceives contingency relationships between his actions and resulting outcomes. "Internals" are those individuals who believe they have some control over their destinies. "Externals", on the other hand, believe their destinies are directed by factors extrinsic to themselves, such as fate, luck, or powerful others.

Behavioral scientists are now giving an increasing amount of attention to the internal-external construct (IE construct). There are now over a dozen tests for its measurement, five literature reviews (Lefcourt, 1972), and a published bibliography of works through 1969 (Throop and MacDonald, 1971). The IE construct has a wide range of generalizability. It has been related to achievement behavior (Coleman, Campbell, Hobson, McPartland, Mood Weinfeld and York, 1966), delinquency (Froehle, 1970: birth control

practices (MacDonald, 1970), belief in government reports (Hamsher, Geller, and Rotter, 1968), and conformity behavior (Odell, 1959).

Studies have shown that internals tend to spend more time in intellectual activities, exhibit more interest in academic pursuits, and score higher on intelligence tests than do externals (Crandall, Katkovsky, and Crandall, 1965: Crandall, Katkovsky and Preston, 1962). The "Coleman Report" (Coleman, et al, 1966) underscored the importance of the IE construct when it was found to be a better predictor of school achievement among minority children than any other attitudinal, familial, school or teacher variable studied. Similar studies have consistently found that internal locus of control generally accompanies successful academic achievement (McGhee and Crandall, 1968; Nowicki and Roundtree, 1971). Several studies indicate that internals are better adjusted and have a better sense of well-being than externals.

Externals, on the other hand, are more likely to be maladjusted and less likely to cope effectively with their problems. Tseng (1970) found that, in contrast with externals, internals were more cooperative, self-reliant, courteous, reliable, and better able to work with others. MacDonald and Games (1971) report that externals are more likely than internals to endorse values often associated with widespread neurosis. Externals are more prone to engage in escapist activities (Baker, 1971), are more hostile (Williams and Vantress, 1969), are less trusting (Hamsher, Geller and Rotter, 1968), and are less trustworthy (Miller and Minton, 1969).

All of the research points in the same direction -- that people are

severely handicapped by external locus of control orientations. Much of the literature indicates that shifts from external control orientations could lead to desirable personality changes. Therefore, a change in the locus of control orientations of individuals (particularly those who are not doing well in society) in the direction of internality is considered to be desirable.

FIELD TEST

In order to field-test and refine instructional procedures to be used in a larger research project[1], a pilot study was conducted during the Fall semester at a participating community college. Although the primary objective of the study was to validate research procedures, techniques, and analysis, it also afforded the opportunity to test one dimension of the major hypotheses of the research project -- that prolonged experience with individualized instruction (two semesters or more) can cause a significant internalization of control.

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[1] The Study: A three-year research grant was obtained from the National Institute of Mental Health to study the effects of shifts from external locus of control to internal locus of control on the mental health of disadvantaged students in selected community colleges. The primary objectives of the study are: (1) to identify which experience, instruction (self-paced or traditional) or counseling (a specially tailored composite or "traditional practice") or some combination thereof, would have the greatest impact

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(continued)

on E to I shifts and (2) to ascertain the long range impact on E to I shifts upon variables which are associated with mental health and academic-vocational success.

The study involves a sample of 1200 students attending ten community colleges. The basic research design examines the main effects of: (1) instruction -- self-paced or traditional -- and (2) counseling -- composite and traditional. Half of the schools in the study will have converted 50 per cent of their courses to self-paced instruction, while the rest will use traditional approaches. Half of the schools will have counselors specifically trained in methods for causeing E to I shifts, while the rest will use traditional counseling methods. The design is as follows:

		Instruction	
		Self-paced	Traditional
Counseling	Composite	School A School B	School C School D
	Traditional	School E School F	School G School H

The study covers the period 1973 to 1976.

METHOD

Eighteen English, math, and history classes were selected, and pre and posttests of the MacDonald-Tseng Locus of Control Scale were administered to a sample of 126 students in these classes during the first month of the Fall semester. These students also provided other data by completing the Student Personal Data Inventory.

Somewhat subjective methods were used to determine individualized courses. Two instructional administrators at the community college, both having extensive background in individualized instruction and using predetermined criteria, identified the classes they considered "individualized." Students with enrollment in 50 per cent or more of these classes were considered to be in the treatment groups. Students not enrolled in these classes were considered the control group.

The idea tested was that greater internalization of control would occur in students engaged in more individualized instruction. It therefore was hypothesized that students enrolled in three individualized courses would experience greater E to I shifts than students enrolled in none, one, or two individualized courses.

RESULTS

According to the hypothesis being tested, significant gain scores (representing shifts toward internalization) should be observed more often in students receiving individualized instruction than students receiving traditional instruction. Table 1 presents the mean gain scores (i.e., posttest

minus pretest) and standard deviations according to the number of individualized courses taken.

Results, although not entirely definitive, were positive. Students enrolled in individualized courses scored more homogeneously on a control expectancy scale than students enrolled in more traditional courses. Also, the average increase in internality was in excess of three scale points indicating overall movement in the direction of internal control orientation.

After inspecting the data depicted in Table 1, the authors ran Fisher's F-test comparison on the variances found in the 0 cell and the 3 or 4 cell. The results suggest a significance ratio below the .05 level on a two-tailed test. Apparently, the students in the individualized courses not only progressed as a group in the direction of internal control orientations and increased success expectancy, but they became more homogeneous. In short, some students decreased their "I" scores and others increased theirs. But the net effect was perhaps a more realistically-oriented internal group.

Table 1

Means, Standard Deviations and Variance by number of Individualized courses taken

Number of courses	0	1	2	3 or 4
Mean Gain Scores	-1.240	-.642	1.43	2.64
S. D.	6.46	5.68	7.59	4.23
Variance	41.73	32.26	57.60	17.89

DISCUSSION

The hypothesis being tested by the pilot study was supported, and it appears that individualized instruction causes a shift toward internal locus of control in students, at least over the period of one semester. This final phrase should be given much consideration when interpreting the results. The researchers believe that a single semester of individualized courses, particularly to students unaccustomed to such instruction, may not provide enough impetus to cause a significant shift in locus of control. Certainly the control expectancy variance in the sample was significantly more homogeneous in the individualized instruction treatment cell. The researchers noted an interesting phenomenon in the the study. Even though there was an overall mean gain score increase of over three points favoring internality, a slightly greater percentage of students in the treatment group (individualized classes) made external shifts than students in the control group (traditional classes). Similar results have been noted by other researchers in locus of control studies.* The researchers believe that there are two possible explanations: (1) the uncertainty created in individuals initially exposed to something new results in a temporary shift toward externality, and/or (2) the measured success experiences of the students in the individualized instruction courses led to a more realistic and helpful control orientation.

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*Stephen Nowicki noted such results in a letter to Oscar Mink, December 10, 1973, commenting on the proposed study.

Most of the students in the sample have a history of traditional instruction dominated by teachers and arbitrary pay-offs. Individualized instruction, involving a certain amount of self-motivation and self-regulation, exposes these students to something new -- an area of uncertainty but with consistency in payoffs.

Consequently, this period of uncertainty and ordered success results in an immediate adjustment in control expectancy and the success expectancy dimensions. It would, therefore, appear that directional changes in control expectancy may not be as significant a measure as the movement towards a more realistic norm in a given academic setting -- in essence, a functional success-oriented, self-situation appraisal.

The notion that a treatment effect (in this study, individualized instruction) has a uni-directional effect on the criterion measure of Locus of Control has long since proven to be fantasy. Mink (1959) first identified "deterioration effect" in counseling. Since that time Bergin (1963), Truax (1963), and Truax and Carkhuff (1964) have pursued the problem vigorously and verified the presence of the phenomenon. Possibly the same phenomenon exists in instruction and clearly deserves more extensive study.

SUMMARY

In brief, this study provides some evidence to support the notion that students exposed to poor learning experiences may deteriorate on one critical personality variable. Conversely, success-oriented instruction may lead to both growth and a socially-functional success expectancy.

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